

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1, 3-21, 23 and 24 are pending in the application, with claims 1, 11, 20 and 21 being the independent claims. Claim 2 is canceled without prejudice to or disclaimer of the subject matter therein. No new claims are added. Claims 1, 3-7, 11, 20, 21, 23 and 24 are amended herein. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 102

Claims 1, 3, 5-7, 9-14, 20-21, 23-24 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,464,656 to Polivka ("Polivka"). Applicants traverse this rejection. Claims 1, 3, 5-7, 9-14, 20-21, 23-24, as amended herein, are patentable over Polivka.

Firstly, Polivka does not disclose that the television and teleconference signals mentioned therein are separate in frequency. On the contrary, Polivka requires that these channels are communicated in the same frequency range using spread spectrum techniques such that their frequencies overlap. Polivka teaches that the television and teleconference signals to be transmitted to the aircraft are each spread spectrum-modulated and up-converted to radio frequency by a respective transmitter stage (items 204-1 and 204-N in Fig. 2A) of the earth station. See col. 7, lines 12-26. Polivka

discloses that the spread spectrum teleconference signal is then combined with the spread spectrum television signal in a summing unit (222) for transmission via an antenna (16) to a relay satellite (23). See col. 7, lines 33-47. The combined spread spectrum signals are retransmitted by the relay satellite and received by a phased array antenna (35, 265R, 266R) of the aircraft.

The primary objective of the arrangement disclosed by Polivka is to minimize antenna size, as described at col. 2, lines 5-11 and col. 1, line 65 to col. 2 line 1. This objective is achieved by using spread spectrum modulation to modulate both the television and teleconference channels in a single narrow frequency range, thereby permitting a smaller antenna to be used. This arrangement necessarily requires the frequencies of the television and teleconference channels to overlap. Thus, Polivka does not disclose communications channels that are separate in frequency from broadcast channels, as called for by the independent claims.

Secondly, Polivka does not disclose a frequency splitter that is capable of performing the following three functions specified in the independent claims:

1. Separating communications channels and broadcast channels;
2. Directing the separated communications channels to a communications demodulator; and
3. Directing the separated broadcast channels to a broadcast demodulator.

Polivka does not disclose the first of these three functions since, as discussed above, the television and teleconference channels of Polivka are not separate in frequency, but are overlapping. A frequency splitter would not be able to separate such overlapping spread spectrum channels.

Polivka also does not teach the second and third of these three features, relating to directing the separated broadcast and communications channels to a respective demodulator. Fig. 3A of Polivka discloses that signals received by the antennas (265R and 266R) are routed directly to each of the receiver stages (280-1 to 280-K), without any separation of the signals (the monopulse comparator (268) and switch (271) in the signal path to the receiver stages merely integrate signals from the port and the starboard antennas – see column 8, lines 13 to 40). Therefore, an identical signal will be received at the input to the various receiver stages and the various despreading demodulators (295). Thus, Polivka teaches that both television and teleconference signals are received at the television demodulator, while both television and teleconference signals are also received at the teleconference demodulator. Thus, Polivka does not disclose a frequency splitter capable of separating signals in the manner specified in the independent claims.

The claimed subject-matter is novel over Polivka for at least the foregoing reasons. Furthermore, as noted previously, Polivka requires the use of overlapping spread spectrum signals in order to achieve its primary objective of minimizing antenna size. Thus, Polivka teaches a person skilled in the art away from considering separating the broadcast and telecommunications channels in frequency, because such separation in frequency would negate Polivka's overriding purpose of enabling a smaller antenna to be used. Consequentially, Polivka also teaches the person skilled in the art away from considering the use of a frequency splitter of the type called for by the independent claims. Thus, Polivka contains no teaching that would have motivated the person skilled in the art to arrive at the claimed subject-matter.

Independent claim 1, as amended, is directed to an apparatus for receiving signals transmitted by a satellite that includes an antenna, a communications demodulator, a

separate broadcast demodulator and a frequency splitter for separating the communications channels from the broadcast channels, directing the separated communications channels to said communications demodulator, and directing the separated broadcast channels to said broadcast demodulator, wherein the communications channels are separate in frequency from the broadcast channels. As discussed above, Polivka does not disclose communications channels that are separate in frequency from broadcast channels, as called for by independent claim 1, and Polivka does not disclose a frequency splitter that is capable of performing the functions specified in independent claim 1. For at least these reasons, claim 1, as amended, is patentable over Polivka. Dependent claims 3-10, 23 and 24 depend from and add further features to independent claim 1 and are thus patentable for at least the same reasons as claim 1.

Independent claim 11, as amended, is directed to a system for providing broadcasts to aircraft wherein a decoding means acts to separate broadcast signals from communication signals while directing the broadcast signals to a broadcast signal demodulator and the communication signals to a separate communications signal demodulator. Polivka discloses a spread spectrum modulator such that the broadcast signals and communication signals frequencies overlap. Therefore, Polivka does not disclose a decoding means for separating broadcast signals from communication signals and directing the broadcast signals to a broadcast signal demodulator while directing the communication signals to a separate communications signal demodulator. For at least this reason, claim 11 is patentable over Polivka. Dependent claims 12-19 depend from and add further features to independent claim 11 and are thus patentable for at least the same reason as claim 11.

Independent claim 20, as amended, is directed to an apparatus for receiving real-time broadcasts on aircraft wherein the apparatus comprises a decoding means for separating broadcast data from other data within a signal received on-board an aircraft, wherein the decoding means is operable to separate the data relating to the broadcast from the other data by splitting the signal received on-board the aircraft into signals in the respective frequency sub-bands, and the decoding means is further operable to direct the signals in the respective frequency sub-bands to a respective demodulator. Polivka discloses a spread spectrum modulator such that the broadcast signals and communication signals frequencies overlap. Thus, Polivka does not disclose an apparatus comprising a decoding means for separating broadcast data from other data within a signal by splitting the signal into signals in the respective frequency sub-bands and directing the signals in the respective frequency sub-bands to a respective demodulator. For at least this reason, claim 20 is patentable over Polivka.

Independent claim 21, as amended, is directed to a method of providing real-time broadcasts to an aircraft wherein communications data is separate in frequency from broadcast data. Polivka discloses a spread spectrum method for transmitting television and teleconference signals such that the data is not separated in frequency but overlaps. Thus, Polivka does not disclose a method for providing real-time broadcasts wherein communications data is separate in frequency from broadcast data. For at least this reason, claim 21 is patentable over Polivka.

Therefore, Applicants respectfully request the withdrawal of the 35 U.S.C. §102(b) rejection.

Rejections under 35 U.S.C. § 103

The Examiner has rejected claim 4 under 35 U.S.C. §103(a) as being obvious over Polivka in view of Schoeneberegger ("Telephones in the Sky", Journal of the British Institution of Radio Engineers, London, GB, Vol. 1, no. 2, 1 March 1981). Claim 4 depends from and adds features to claim 1. As such, it is patentable for at least the same reasons as amended claim 1 discussed above.

The Examiner has rejected claim 8 under 35 U.S.C. §103(a) as being obvious over Polivka in view of U.S. Patent No. 6,810,527 to Conrad (Conrad). Claim 8 depends from and adds features to claim 1. As such, it is patentable for at least the same reasons as amended claim 1 discussed above.

The Examiner has rejected claims 15-19 under 35 U.S.C. §103(a) as being obvious over Polivka in view of U.S. Patent No. 5,990,928 to Sklar (Sklar). Claims 15-19 depend from and add features to claim 11. As such they are patentable for at least the same reasons as amended claim 11 discussed above.

In light of the amendments herein and the above remarks, Applicants respectfully request the withdrawal of these 35 U.S.C. § 103 rejections.

Conclusion

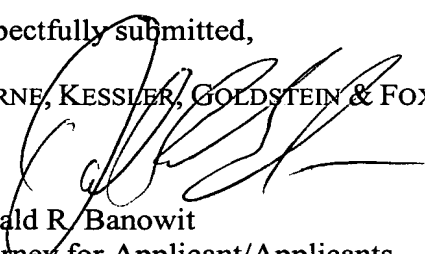
All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will

expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.


Donald R. Banowit
Attorney for Applicant/Applicants
Registration No. 42,289

Date: 7/10/06

1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600